

S/N 10/550,118

In response to the office action dated November 25, 2009

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Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. (Currently Amended) An ultrasonic probe, comprising:
 - an ultrasonic transducer ~~that scans~~ configured to scan an ultrasonic beam;
 - a transducer-swinging motor ~~that allows~~ configured to allow the ultrasonic transducer to perform swing scanning in a direction crossing a scanning direction of the ultrasonic beam;
 - a rotary encoder ~~that generates~~ configured to generate a pulse according to a rotational position of the transducer-swinging motor; and
 - an encoder correction ROM ~~that stores~~ configured to store a previously measured swing scanning angle of the ultrasonic transducer with respect to each of a plurality of count value values, wherein the count values are obtained by counting pulses from the rotary encoder over an entire swing range of the ultrasonic transducer, and outputs configured to output the previously measured and stored swing scanning angle of the ultrasonic transducer.
2. (Currently Amended) The ultrasonic probe according to Claim 1, wherein the encoder correction ROM ~~stores~~ is configured to store swing directional angles that are different between a forward path of swing scanning and a return path of the swing scanning.
3. (Currently Amended) An ultrasonic diagnostic apparatus, comprising:
 - an ultrasonic probe comprising an ultrasonic transducer ~~that scans~~ configured to scan an ultrasonic beam, a transducer-swinging motor ~~that allows~~ configured to allow the ultrasonic transducer to perform swing scanning in a direction crossing a scanning direction of the ultrasonic beam, a rotary encoder ~~that generates~~ configured to generate a pulse according to a rotational position of the transducer-swinging motor, and an encoder

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correction ROM ~~that stores~~ configured to store a previously measured swing scanning angle of the ultrasonic transducer with respect to each count value obtained by counting pulses from the rotary encoder, and ~~outputs~~ configured to output the previously measured and stored swing scanning angle of the ultrasonic transducer;

a transmitting/receiving element ~~that excites~~ configured to excite vibrators of the ultrasonic transducer and ~~receives~~ configured to receive an ultrasonic echo reflected by a subject;

an encoder counter ~~that counts~~ configured to count pulses from the rotary encoder;

a main controlling element ~~that reads~~ configured to read out, from the encoder correction ROM in the ultrasonic probe, the previously measured swing scanning angle of the ultrasonic transducer with respect to each count value;

a motor controlling element ~~that performs~~ configured to perform driving control on the transducer-swinging motor according to the count value from the encoder counter;

a three-dimensional image processing element ~~that forms~~ configured to form a three-dimensional image based on ultrasonic echo data obtained by the transmitting/receiving element, the count value from the encoder counter, and the previously measured swing scanning angle of the ultrasonic transducer with respect to each count value ~~that is~~ provided by the main controlling element; and

an image display element ~~that displays~~ configured to display the three-dimensional image.

4. (Currently Amended) The ultrasonic diagnostic apparatus according to Claim 3, wherein the encoder correction ROM ~~stores~~ is configured to store swing directional angles that are different between a forward path of swing scanning and a return path of the swing scanning.

5. (Currently Amended) An ultrasonic diagnostic apparatus, comprising:

an ultrasonic probe comprising an ultrasonic transducer ~~that scans~~ configured to scan an ultrasonic beam, a transducer-swinging motor ~~that allows~~ configured to allow the ultrasonic transducer to perform swing scanning in a direction crossing a scanning

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direction of the ultrasonic beam, a rotary encoder ~~that generates~~ configured to generate a pulse according to a rotational position of the transducer-swinging motor, and an encoder correction ROM ~~that stores~~ configured to store a previously measured swing scanning angle of the ultrasonic transducer with respect to each count value obtained by counting pulses from the rotary encoder, and ~~outputs~~ configured to output the previously measured and stored swing scanning angle of the ultrasonic transducer;

a transmitting/receiving element ~~that excites~~ configured to excite vibrators of the ultrasonic transducer and ~~receives~~ configured to receive an ultrasonic echo reflected by a subject;

an encoder counter ~~that counts~~ configured to count pulses from the rotary encoder;

a main controlling element ~~that reads~~ configured to read out, from the encoder correction ROM in the ultrasonic probe, the previously measured swing scanning angle of the ultrasonic transducer with respect to each count value;

a motor controlling element ~~that performs~~ configured to perform driving control on the transducer-swinging motor according to the count value from the encoder counter and the previously measured swing scanning angle of the ultrasonic transducer with respect to each count value that is provided by the main controlling element;

a three-dimensional image processing element ~~that forms~~ configured to form a three-dimensional image based on ultrasonic echo data obtained by the transmitting/receiving element; and

an image display element ~~that displays~~ configured to display the three-dimensional image.

6. (Currently Amended) The ultrasonic diagnostic apparatus according to Claim 5, wherein the encoder correction ROM ~~stores~~ is configured to store swing directional angles that are different between a forward path of swing scanning and a return path of the swing scanning.